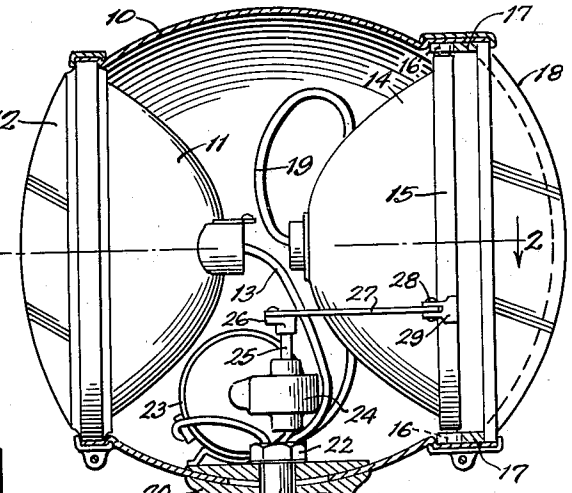
Feb. 1, 1949. J. D. KENNELLY 2,460,585

WARNING LIGHT AND SEARCHLIGHT COMBINATION

Filed Jan. 31, 1947

Fig. 1



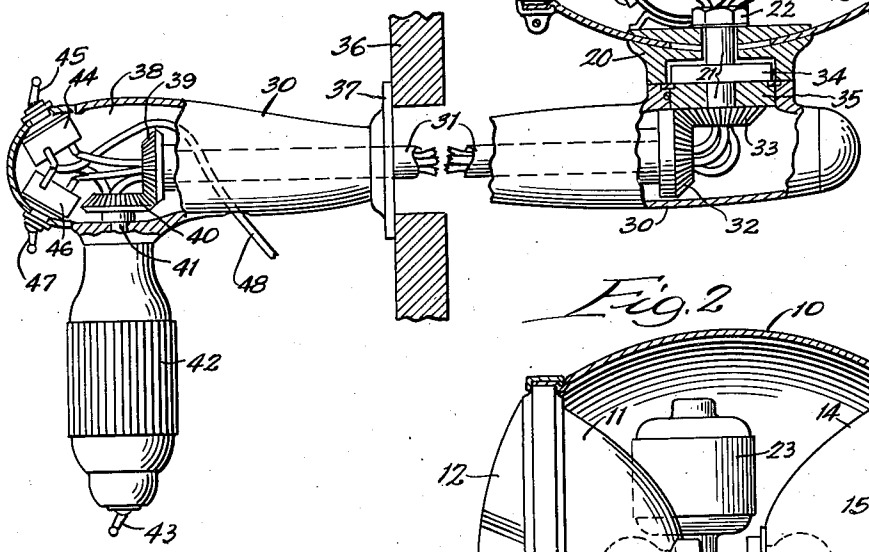
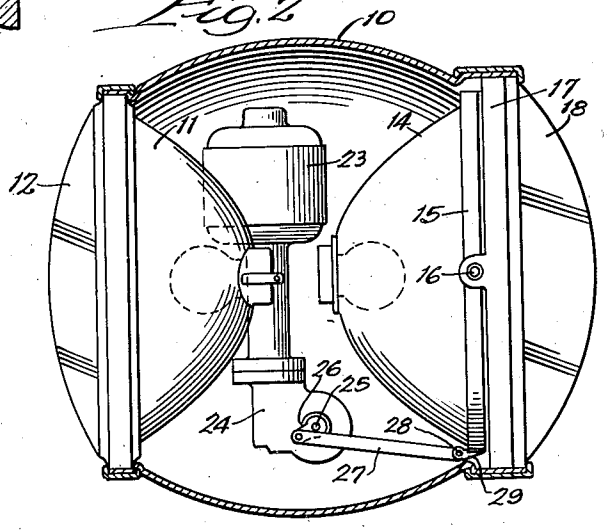


Fig. 2



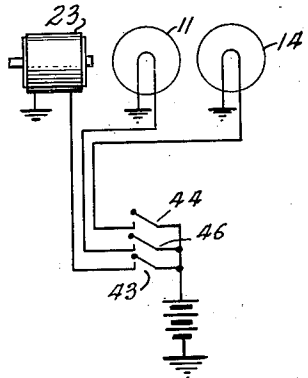


Fig. 3.

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WARNING LIGHT AND SEARCHLIGHT COMBINATION

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5 Claims. (Cl. 177—327)

1

This invention relates to signal apparatus and more particularly to a combined light projecting device selectively capable of illumination and of motor driven light signal projection.

In the operation of police cars, ambulances, and other emergency vehicles, it is important to provide light signal devices while at the same time employing manually effective means for directing the direction of the light, as well as providing means for illumination. An object of the present invention is to provide such a mechanism while enabling the control thereof to be effected from within the vehicle. Another object is to provide a combination search light and motor driven signal device, combined in such a manner that they may be operated from within the vehicle compartment while enabling the signal portion of the device to be projected in any selected direction and at times employed simultaneously with the illuminating portion of the device. Other specific objects and advantages will appear as the specification proceeds.

The invention is illustrated, in a single embodiment, by the accompanying drawing, in which—

Fig. 1 is a broken side view in elevation of apparatus embodying my invention; Fig. 2, a plan sectional view, the section being taken as indicated at line 2 of Fig. 1, and Fig. 3, a wiring diagram showing the interconnection of the electrical components of my invention.

In the illustration given, 10 designates a casing in which is mounted on one side thereof a light equipped reflector 11 providing an illuminating or search light. The search light is provided with a lens 12 and an electrical connection 13 furnishes the current for the bulb.

On the opposite side of the casing 10 is mounted a bulb equipped reflector 14. The reflector 14 is provided at its front with a ring 15 having pins 16 mounted within a bearing 17 carried by the casing. A lens 18 is mounted in the front part of the casing and in front of the reflector. Electric current is furnished to the bulb within the reflector 14 by the cable 19.

The casing 10 is secured within a base member 20 provided centrally with a vertical recess receiving the hollow shaft 21. A hollow nut 22 is clamped against the base member 20 so as to lock the shaft 21 rigidly thereagainst.

Mounted upon the base 20 is a motor 23 which drives through reducing gears 24 a shaft 25. The shaft 25 is provided with an eccentric arm 26 pivotally connected at its end to the link 27.

2

The link 27 is connected at its outer end by means of pivot pin 28 to an arm 29 fixed to the ring 15.

Fixed to the lower end of base 20 is a hollow horizontal casing 30 which rotatably supports an actuating hollow shaft 31. The shaft 31 carries at its outer end a bevelled gear 32 which is centrally apertured and which meshes with the bevelled gear 33 carried by shaft 21. The shaft 21 is provided with a horizontal flange 34 received within a recess in the bottom of base 20. A perforated cylindrical disc 35 is supported just below the flange 34 and is secured to the casing 30 by spot welding or by keys or by any other suitable means. The plate 35 is apertured to receive the lower portion of the shaft 21.

The casing 30 extends through a wall 36 of the vehicle and into the interior of the vehicle. A flange 37 may be provided for forming a tight seal with the wall 36 through which the casing 30 extends.

The casing 30, on its inner end, provides a chamber 38 for receiving the manually actuated means. The tube 31, at its inner end, is provided with bevelled gear 39 and the gear 39 meshes with the hollow bevelled gear 40. The shaft 41, upon which gear 40 is mounted, extends downwardly through the casing 30 and is fixed to a hollow rotatable handle 42. Upon rotation of the handle 42, shaft 41 and pinion 40 are caused to rotate. A switch is mounted within the handle 42 and is actuated by a switch lever 43 extending from the bottom of the handle 42. The lever switch 43 is arranged to control the motor 23.

Mounted within the chamber 38 is a light switch 44 controlled by a switch lever 45 which extends through the wall of casing 30. A second light switch 46 is mounted in the lower portion of chamber 38 and is controlled by the lever 47. Leading from the switches are cables which pass through the hollow pinion 39, tube 31, hollow gears 32 and 33, and thence through the shaft 21 into the interior of casing 10. A cable 48 leads through an opening in casing 30 to any source of current outside the casing and supplies current to the three switches.

The casing 30 may extend through any suitable wall 36 of the vehicle. It may extend through the windshield or through the side post supporting the windshield of an automobile, or it may extend through the roof of the automobile or other vehicle. With the light structure 10 on the outside of the vehicle supported upon casing 30, the operator within the vehicle may set the motor 23 into operation and may rotate the casing 10 in any desired direction, illuminating

either of the lights. The search light 11 may be set into operation by moving the lever 47 to closed position. The signal light may be illuminated by closing lever switch 45.

The electrical connections of the lights, the motor, and the various switches are shown in Fig. 3. It will be understood that the ground symbols shown in Fig. 3 denote connection to the metallic frame of the vehicle, as is customary in electrical wiring in automobiles and other mobile vehicles.

When the vehicle is passing along a straight highway, the signal apparatus is preferably directed straight ahead so that the motor 23 oscillates the light equipped reflector 14 laterally across the highway. In this operation, the motor rotates the shaft 25 and the eccentric arm 26 moves the link 27 backwardly and forwardly, causing the member 14 to pivot upon the pins 16. When, however, the highway swings to the right or left, or where an intersection is approached with traffic moving from the right or the left, it is desirable to swing casing 10 laterally so that the oscillating device 14 sweeps the road to the right or left well before the car itself reaches the curve or the intersection. The operator accomplishes this by rotating handle 42 and thereby bevelled gears 40 and 39. This produces a rotation of tube 31, gears 32 and 33, and the hollow shaft 21 which is fixed to the base 20.

Alternatively, when the need for a signal light is not present, the operator may completely rotate the casing 10 so as to bring the search light 11 into play upon the road ahead or upon areas to the right or left of the road. When approaching an intersection, the driver of the emergency vehicle may prefer to turn the oscillating signal device 14 in the direction of the cross-road to the right or the left where most of the traffic is approaching, while simultaneously bringing the search light to play upon the opposite side of the roadway. Thus, the operator is able to project the warning light in the necessary direction while providing ample illumination for the side of the road opposite and along which it may be desired to turn.

For the greater part of the time, it will be the normal practice to employ only one of the lights and at times none of the lights. In the case of an emergency, the oscillating lamp structure 14 is set into operation and its ambit of sweep controlled while the spotlight may also be utilized under certain circumstances, as already described. Should the light structure be mounted upon the roof of a squad car, the search or spotlight 11 may be effectively employed while the oscillating lamp 13 is also set into operation to warn the traffic following against sudden stoppage or turning of the car.

While in the foregoing specification I have set forth certain details of structure and certain illustrated uses of the invention, it will be understood that the details of such structure may be varied widely by those skilled in the art without departing from the spirit of my invention, and that the uses to which the apparatus may be put may be for many others than those indicated.

I claim:

1. In a manually controlled light structure having an arm extending through the wall of a vehicle, a casing rotatably mounted on said arm, a pair of angularly disposed lights mounted on said casing, said casing having openings for said lights and at least one of said lights being movably mounted; power means for oscillating said movably mounted light, and means associated with the inner end of said arm and with said casing for moving said casing relatively to said arm.

2. In a manually controlled light structure having an arm extending through the wall of a vehicle and a controlling handle within the vehicle, a casing rotatably mounted on said arm, lights mounted on opposite sides of said casing, said casing having openings for said lights and at least one of said lights being movably mounted, power means within said casing for oscillating said light, and means associated with said handle for rotating said casing and for selectively controlling said lights and said power means.

3. In a manually controlled light structure having an arm extending through the wall of a vehicle, a casing rotatably mounted on said arm and open at its ends, a search light mounted in one end of said casing, a signal light movably mounted in the other end of said casing, a motor for oscillating said signal light, and means within said vehicle and associated with said arm for rotating said casing and for selectively controlling each of said lights and said motor.

4. In a manually controlled light structure having an arm extending through the wall of a vehicle, an open-ended casing rotatably mounted on said arm, a stationary spot-light supported in one end of said casing, a pivotally mounted signal light supported in the other end of said casing, a motor mounted in said casing for oscillating said signal light, switch means associated with said arm on the interior of said vehicle for controlling said motor and said signal light, a separate switch for controlling said spot-light, and means associated with the inner end of said arm for rotating said casing.

5. A manually controlled light structure having a hollow arm extending through a wall of a vehicle, a casing movably mounted on said arm, a pair of lights mounted in said casing, said casing having openings therein aligned with said lights one of said lights being movably mounted, a motor supported in said casing, means driven by said motor for oscillating said movably mounted light, cables extending through said arm and into said casing for connecting said lights and said motor with a source of current, and switches controlling said cables and mounted on the inner end of said hollow arm.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,548,958	Sperry	Aug. 11, 1925
1,670,682	Halvorson et al.	May 22, 1928
1,772,499	Rumsey	Aug. 12, 1930
2,414,807	Gross	Jan. 28, 1947